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| EXAMINER | |
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| TIV, BACKHEAN | |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patlaw@worldpatents.com

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/700,914 | HRASTAR, SCOTT E. | |
| | Examiner | Art Unit | |
| | BACKHEAN TIV | 2451 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *14 April 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-12,15-36 and 38-41* is/are pending in the application.

4a) Of the above claim(s) *13,14,37* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,15-36 and 38-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

***Detailed Action***

Claims 1-12, 15-36, 38-41 are pending. Claims 13, 14, 37 have been cancelled. This is a response to the Amendment/Remarks/RCE filed on 4/14/10.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 38 is rejected under 35 U.S.C. 101 because the claims fail to place the invention squarely within one statutory class of invention.

The applicant specification, para.158, recites, "In other embodiments, any suitable computer readable storage device, media or combination of devices and/or media, including primary storage **such as** RAM, ROM, cache memory, etc. or secondary storage such as magnetic media including fixed and removable disks and tapes;", however, the specification merely provides examples of what could be a computer readable media, the specification does not limit the " computer readable media ", given the broadest interpretation to non-transitory media. Therefore, since the specification has not provided a clear definition of " computer readable media ", computer readable media can be drawn to cover forms of non-transitory media and transitory propagating signal, based upon broadest reasonable interpretation. To overcome this rejection, it is recommended that the applicant amend the claims to add the limitation "non-transitory".

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-12,15-35,38 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,766,165 issued to Sharma et al.(Sharma) in view of US Patent 6,920,494 issued to Heitman et al(Heitman) in further view of US Patent 6,693,888 issued to Cafarelli et al.(Cafarelli) in further view of US Publication 2003/0061506 issued to Cooper et al.(Cooper) in further view of US Patent 5,636,344 issued to Lewis.

As per claim 1, Sharma teaches a method for mapping the topology of a wireless network(Fig.1), the method comprising the steps of:

(b) identifying a relationship (1) between at least one of the wireless access points and at least one of the wireless network nodes(Fig.1-5, col.4, lines 45-55 ) or (2) between any two wireless network nodes based on the received scan data, a characteristic of at least one of the wireless access points, a characteristic of at least one of the wireless network nodes or combinations thereof(Fig.1-5, col.4, lines 45-55); and (c) storing the identified relationship, access point characteristic, node characteristic or combinations thereof in a system data store as topology data(col.15, lines 58- col.6, line39); wherein the wireless network comprises a wireless local area

network(col.5, lines 55-56).

Sharma however does not explicitly teach receiving scan data comprising information collected from IEEE 802.11 management and control frames transmitted on the wireless network; wherein the received scan data is received from a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network, wherein the scan data is associated with monitoring of one or more network or nodes or combination thereof and wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless sensor and a server; formatting the stored topology data based upon a desired output format; repeating steps (a) through (d) a plurality of times, wherein the system data store stores topology data for each repetition, and wherein potential security and policy violations are detected responsive to historical topology data.

Heitman teaches receiving scan data associated with monitoring of one or more network or nodes or combination thereof(Abstract); formatting the stored topology data based upon a desired output format(Figs.28-34, col.3, lines 33-45).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma to include receiving scan data associated with monitoring of one or more network or nodes or combination thereof as taught by Heitman in order to resolve network

topology(Heitman, col.2, lines 60-67); the step of repeating steps (a) through (d) a plurality of times, wherein the system data store stores topology data for each repetition, (Heitman, Figs.28-34).

One ordinary skill in the art at the time of the invention would have been motivated to combine the teachings of Sharma and Heitman in order to provide a system to manage policies for networks(Hietman, col.2, lines 3-30).

Sharma in view of Heitman does not explicitly teach scan data comprising information collected from frames transmitted on the wireless network, wherein the received scan data is received from a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network and wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless sensor and a server.

However, Sharma, col.25, lines 65-45, makes suggestions to different types of network and network technologies that can be used.

Cafarelli teaches receiving scan data comprising information collected from IEEE 802.11 management and control frames transmitted on the wireless network, wherein the received scan data is received from a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network and wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless sensor and a server(Title, Fig.13, col.5, lines 45-49).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman to include s receiving scan data comprising information collected from IEEE 802.11 management and control frames transmitted on the wireless network, wherein the received scan data is received from a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network and wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless sensor and a server as taught by Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, and Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

Sharma, in view of Heitman in view of Cafarelli does not explicitly teach wherein potential security and policy violations are detected responsive to historical topology data.

Cooper teaches a network security policy monitoring system where traffic is monitored to see whether certain events are allowed by specified policies(Abstract, Figs.1-32,para.0045-0046).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in further view of Cafarelli to include detecting whether there are potential security and policy violations as taught by Cooper in order to improve security of a network(Cooper, para.0003).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, and Cooper in order to improve security of a network(Cooper, para.0003).

Sharma in view of Heitman in further view of Cafarelli in further view of Cooper does not explicitly teach historical topology data.

Lewis explicitly teaches historical topology data(col.9, lines 3-23).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in further view of Cafarelli in further view of Coopers to include historical topology data as taught by Lewis in order to analyze faults(Lewis, col.1, lines 5-7).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, Coopers, and Lewis, in order to analyze faults(Lewis, col.1, lines 5-7).

As per claim 2., the method of claim 1, and further comprising the step of initiating one or more scans of wireless transmissions to generate the scan data(Heitman, col.31, lines 40-54). Motivation to combine set forth in claim 1.

As per claim 3, the method of claim 2, wherein the step of initiating one or more scans comprises initiating a plurality of scans(Heitman, col.39, lines 1-39). Motivation to combine set forth in claim 1.

As per claim 4, the method of claim 3, wherein each of the plurality of scans is initiated upon a different wireless sensor(Heitman, col.39, lines 1-39). Motivation to combine set forth in claim 1.

As per claim 5, the method of claim 4, wherein each of the plurality of scans occurs simultaneously(Heitman, col.39, lines 1-39). Motivation to combine set forth in claim 1.

As per claim 6, the method of claim 4, and further comprising the step of repeating the step of initiating the plurality scans(Heitman, col.39, lines 1-39). Motivation to combine set forth in claim 1.

As per claim 7, 9, wherein the repetition step occurs over a particular time period(Heitman, col.39, lines 1-39). Motivation to combine set forth in claim 1.

As per claim 8,10, and further comprising the step of determining the particular time period based upon configuration data, network security threat level, current network activity, historical network activity or combinations thereon(Heitman, col.38, lines64-col.39, lines 55 ). Motivation to combine set forth in claim 1.

As per claim 11, the method of claim 2, and further comprising the step of receiving a mapping request from a user or a computer and wherein the scan initiation step is responsive to the received mapping request(Sharma, col.12, lines 40-59).

As per claim 12, the method of claim 2, wherein the one or more initiated scans are initiated continuously or at periodic intervals(Heitman, col.38, lines64-col.39, lines 55 ). Motivation to combine set forth in claim 1.

As per claim 15, the method of claim 13, and further comprising the step of (e) storing the formatted topology data in a data store accessible by a server system(Sharma, col.7, lines 15-31).

As per claim 16, the method of claim 15, wherein the server system is an

HTTP server, a WAIS server, a gopher server, or an FTP server(Sharma, col.7, lines 15-31).

As per claim 17, the method of claim 13, wherein the desired output format is TIFF, GIF, JPEG, HTML, SMS, MIME, S/MIME, ZIP, SML, SGML, WAP, BMP or combinations thereof(Heitman, Figs.28-34).

As per claim 18, the method of claim 13, and further comprising the step of receiving a mapping request and wherein the formatting step is responsive to the received mapping request(Sharma, Figs.1-5, col.12, lines 40-59).

As per claim 19, the method of claim 18, wherein the mapping request is received from a user or a computer system(Sharma, Figs.1-5, col.12, lines 40-59).

As per claim 20, the method of claim 13, and further comprising detecting a mapping trigger event based upon the received scan data and wherein the formatting step is responsive to the detected trigger event (Sharma, Figs.1-5, col.12, lines 40-59, Heitman, col.2, lines 3-30). Motivation to combine set forth in claim 1.

As per claim 21, the method of claim 20, wherein the trigger event is a usage volume anomaly, a connectivity pattern anomaly, a policy violation, a security violation or combinations thereof(Sharma, Figs.1-5, col.12, lines 40-59, Heitman, col.2, lines 3-30). Motivation to combine set forth in claim 1.

As per claim 22, the method of claim 1, and further comprising the step of (d) transmitting the stored topology data to a desired output device(Heitman, Figs.28-34). Motivation to combine set forth in claim 1.

As per claim 23, the method of claim 22, and further comprising the step of

repeating steps (a) through (d) a plurality of times(Sharma, col.4, lines 15-67, Heitman, Abstract). Motivation to combine set forth in claim 1.

As per claim 24, the method of claim 22, and further comprising the steps of (e) determining a desired output format and (f) formatting the stored topology data based upon the desired output format prior to transmission(Sharma, col.4, lines 15-67, Heitman, Abstract). Motivation to combine set forth in claim 1.

As per claim 25, the method of claim 24, wherein the step of determining the desired output format comprises the step of determining the desired output format based upon configuration data, the desired output device, a mapping request or combinations thereo(Sharma, col.4, lines 15-67, Heitman, Figs.28-34, Abstract). Motivation to combine set forth in claim 1.

As per claim 26, the method of claim 22, and further comprising the step of (e) determining the desired output device(Heitman, Figs.28-34, Abstract). Motivation to combine set forth in claim 1.

As per claim 27, the method of claim 26, wherein step (e) comprises the step of determining the desired output device based upon configuration data, a mapping request or combinations thereof(Sharma, col.4, lines 15-67).

As per claim 28, the method of claim 22, wherein the desired output device is a monitor, a printer, a further processing system, a pager, a telephone, a personal data assistant (PDA), an email account or a combination thereof (Heitman, Figs.28-34, Abstract). Motivation to combine set forth in claim 1.

As per claim 29, the method of claim 22, wherein the desired output device is capable of rendering graphical output and further comprising the step of (e) formatting the topology data in a manner to graphically represent characteristics or relationships prior to transmission; graphically represented characteristics or relationships comprise whether a wireless access point of the one or more wireless points is authorized, unauthorized, or ignored and whether a wireless network node of the one or more wireless network nodes is authorized, unauthorized, unassociated, an adhoc station, or ignored. (Heitman, Figs.28-34, Abstract, Cooper,Abstract, Figs.1-32,para.0045-0046s, Figs.1-5,9,18-34). Motivation to combine set forth in claim 1.

As per claim 30, the method of claim 29, wherein the desired output device is capable of rendering color output and wherein the formatting step (e) comprises the step of formatting the topology data in manner using color to represent characteristics or relationships prior to transmission(Heitman, Figs.28-34, Abstract). Motivation to combine set forth in claim 1.

As per claim 31, the method of claim 22, wherein the desired output device is capable of rendering color output and further comprising the step of (e) formatting the topology data in manner using color to represent characteristics or relationships prior to transmission(Heitman, Figs.28-34, Abstract). Motivation to combine set forth in claim 1.

As per claim 32, the method of claim 1, and further comprising the step of identifying a relationship between a plurality of the wireless nodes based on the received scan data in which no wireless access point is involved(Sharma, col.12, lines

40-58).

As per claim 33, Sharma teaches a system for mapping the topology of a wireless network(Fig.1), the system comprising:

(a) storage means for storing topology data comprising access point characteristic data, wireless network node characteristic data, access point to node relationship data, node to node relationship data or combinations thereof(Fig.1-5, col.4, lines 45-55, col.15, lines 58- col.6, line 39); (d) analysis means for generating topology data by identifying from data received by the receiving means a characteristic of a wireless network node, a characteristic of an access point, an access point to node relationship, a node to node relationship, or combinations thereof and for storing the generated topology data in the storage means(Figs.1-5, col.15, lines 58- col.6, line 39); wired connection(Fig.1-5); wherein the wireless network comprises a wireless local area network(col.5, lines 55-56).

Sharma however does not explicitly teach a characteristic of the wireless sensor, a point to sensor relationship, a node to sensor relationship; (c) receiving means for receiving data from the wireless sensor over one of a wireless or wired connection; (b) a wireless sensor for scanning transmissions within a network and generating scan data therefrom, wherein the scan data comprises information collected from IEEE 802.11 management and control frames transmitted on the wireless network, wherein the wireless sensor operates in a promiscuous mode; (e)output means for formatting topology data generated by the analysis means

based upon a desired output format and for transmitting the formatted topology data to a desired output device; and (f) topology comparison means for comparing topology data to prior topology data to evaluate potential security and policy violations of the wireless network.

Heitman teaches a characteristic of the wireless sensor, a point to sensor relationship, a node to sensor relationship(Fig.32-34, describes relationships between the nodes) (e)output means for formatting topology data generated by the analysis means based upon a desired output format and for transmitting the formatted topology data to a desired output device(Figs.28-34, col.3,lines 33-45).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma to (b)monitoring means for scanning transmissions within a network and generating scan data therefrom; (e)output means for formatting topology data generated by the analysis means based upon a desired output format and for transmitting the formatted topology data to a desired output device as taught by Heitman in order to resolve network topology (Heitman, col.2, lines 60-67).

One ordinary skill in the art at the time of the invention would have been motivated to combine the teachings of Sharma and Heitman in order to provide a system to manage policies for networks(Hietman, col.2, lines 3-30).

Sharma in view of Heitman does not explicitly teach (b) a wireless sensor for scanning transmissions within a network and generating scan data therefrom, wherein

the scan data comprises information collected from IEEE 802.11 management and control frames transmitted on the wireless network, wherein the wireless sensor operates in a promiscuous mode; c) receiving means for receiving data from the wireless sensor over one of a wireless.

However, Sharma, col.25, lines 65-45, makes suggestions to different types of network and network technologies that can be used.

Cafarelli teaches a characteristic of the wireless sensor, a point to sensor relationship, a node to sensor relationship(determines topology of LAN); (b) a wireless sensor for scanning transmissions within a network and generating scan data therefrom, wherein the scan data comprises information collected from IEEE 802.11 management and control frames transmitted on the wireless network, wherein the wireless sensor operates in a promiscuous mode (Fig.13, col.5, lines 41-50, 65-67); c) receiving means for receiving data from the wireless sensor over one of a wireless(Fig.13, col.5, lines 41-50).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman to include(b) a wireless sensor for scanning transmissions within a network and generating scan data therefrom, wherein the scan data comprises information collected from IEEE 80.11 management and control frames transmitted on the wireless network, wherein the wireless sensor operates in a promiscuous mode; c) receiving means for receiving data from the wireless sensor over one of a wireless as taught by Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, and Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

Sharma in view of Heitman in further view of Cafarelli does not explicitly teach f) topology comparison means for comparing historical topology data to evaluate potential security and policy violations of the wireless network.

Cooper teaches a network security policy monitoring system where traffic is monitored to see whether certain events are allowed by specified policies(Abstract, Figs.1-32,para.0045-0046).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in further view of Cafarelli to include detecting whether there are potential security and policy violations as taught by Cooper in order to improve security of a network(Cooper, para.0003).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, and Cooper in order to improve security of a network(Cooper, para.0003).

Sharma in view of Heitman in further view of Cafarelli in further view of Cooper does not explicitly teach historical topology data.

Lewis explicitly teaches historical topology data(col.9, lines 3-23).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in further view of

Cafarelli in further view of Coopers to include historical topology data as taught by Lewis in order to analyze faults(Lewis, col.1, lines 5-7).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, Coopers, and Lewis, in order to analyze faults(Lewis, col.1, lines 5-7).

As per claim 34, the system of claim 33, further comprising intrusion detection means for detecting a usage volume anomaly, a connectivity pattern anomaly, a policy violation, a security violation or combinations thereof, and wherein the output means is responsive to a mapping request from a trigger event from the intrusion detection means(Sharma, Figs.1-5, col.12, lines 40-59, Heitman, col.2, lines 3-30, Cooper, Abstract, Figs.1-32,para.0045-0046). Motivation to combine set forth in claim 33.

As per claim 35, the system of claim 33, further comprising intrusion detection means for detecting a usage volume anomaly, a connectivity pattern anomaly, a policy violation, a security violation or combinations thereof, and wherein the monitoring means is responsive to a mapping request from a trigger event from the intrusion detection means(Sharma, Figs.1-5, col.12, lines 40-59, Heitman, col.2, lines 3-30, Cooper, Abstract, Figs.1-32,para.0045-0046). Motivation to combine set forth in claim 33.

As per claim 38, Sharma teaches one or more computer-readable media storing instructions that upon execution by a system processor cause the system processor to map the topology of a wireless network by performing at least the steps comprising(Abstract) of: (c) identifying a relationship (i) between

at least one of the wireless access points and at least one of the wireless network nodes (Figs.1-5, col.4, lines 45-55) or (ii) between any two wireless network nodes based on the received scan data, a characteristic of at least one of the wireless access points, a characteristic of at least one of the wireless network nodes or combinations thereof(Figs.1-5, col.4, lines 45-55), (d) storing the identified relationship, access point characteristic, node characteristic or combinations thereof as topology data(col.15, line 58-col.6, line 39); wherein the wireless network comprises a wireless local area network(col.5, lines 55-56).

Sharma does not explicitly teach (a) initiating a scan of one or more wireless access points, one or more wireless network nodes or combinations thereof, wherein the scan is performed by a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network; (b) receiving scan data comprising information collected from IEEE 802.11 management and control frames transmitted on the wireless network, wherein the scan data is associated with monitoring of one or more wireless access points, one or more wireless network nodes or combinations thereof; (e) formatting topology data generated based upon a desired output format; and (f) outputting the formatted topology data to a desired output device; and (g) comparing the topology data to prior topology data to evaluate potential security and policy violations of the wireless network, wherein the comparing comprises one of a rules-based comparison, a pattern matching-based comparison, and a combination thereof.

Heitman teaches (b) receiving scan data wherein the scan data is associated with monitoring of one or more wireless access points, one or more wireless network nodes or combinations thereof(Abstract); (e) formatting topology data generated based upon a desired output format(Figs.28-34, col.3, lines 33-45); and (f) outputting the formatted topology data to a desired output device(Figs.28-34, col.3, lines 33-45).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma to include (b) receiving scan data wherein the scan data is associated with monitoring of one or more wireless access points, one or more wireless network nodes or combinations thereof; (e) formatting topology data generated based upon a desired output format; and (f) outputting the formatted topology data to a desired output device as taught by Heitman in order to resolve network topology(Heitman, col.2, lines 60-67).

One ordinary skill in the art at the time of the invention would have been motivated to combine the teachings of Sharma and Heitman in order to provide a system to manage policies for networks(Hietman, col.2, lines 3-30).

Sharma in view of Heitman does not explicitly teach wherein the scan is performed by a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network; wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless sensor and a server; information collected from IEEE 802.11 management and control.

However, Sharma, col.25, lines 65-45, makes suggestions to different types of network and network technologies that can be used.

Caffarelli teaches wherein the scan is performed by a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network; wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless sensor and a server; information collected from IEEE 802.11 management and control. (Fig.13, col.5, lines 41-50, 65-67).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman to include wherein the scan is performed by a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network; wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless sensor and a server; information collected from IEEE 802.11 management and control as taught by Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, and Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

Sharma in view of Heitman in further view of Cafarelli does not explicitly teach (g) comparing the topology data to historical topology data to evaluate potential security and policy violations of the wireless network,

Cooper teaches a network security policy monitoring system where traffic is monitored to see whether certain events are allowed by specified policies(Abstract, Figs.1-32,para.0045-0046).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in further view of Cafarelli to include detecting whether there are potential security and policy violations as taught by Cooper in order to improve security of a network(Cooper, para.0003).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, and Cooper in order to improve security of a network(Cooper, para.0003).

Sharma in view of Heitman in further view of Cafarelli in further view of Cooper does not explicitly teach historical topology data.

Lewis explicitly teaches historical topology data(col.9, lines 3-23).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in further view of Cafarelli in further view of Coopers to include historical topology data as taught by Lewis in order to analyze faults(Lewis, col.1, lines 5-7).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, Coopers, and Lewis, in order to analyze faults(Lewis, col.1, lines 5-7).

Claims 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,766,165 issued to Sharma et al.(Sharma) in view of US Patent 6,920,494 issued to Heitman et al(Heitman) in further view of US Patent 6,693,888 issued to Cafarelli et al.(Cafarelli) in further view of US Publication 2003/0061506 issued to Cooper et al.(Cooper).

As per claim 36, Sharma teaches a system for mapping the topology of a wireless network(col.12, lines 53-58), the system comprising:

(a) a system data store (SDS) capable of storing topology data comprising access point characteristic data, wireless network node characteristic data, access point to node relationship data, node to node relationship data or combinations thereof(Fig.1-5, col.4, lines 45-55, col.15, lines 58- col.6, line 39); and

(b) a system processor comprising one or more processing elements, wherein the system processor is in communication with the SDS and wherein the one or more processing elements are programmed or adapted(Fig.1-5) at least to:

(2)receive data and wherein the scan data is associated with monitoring of one or more wireless access points, one or more wireless network nodes or combinations thereof(col.4,lines 15-33);

(3) identify a relationship (i) between at least one of the wireless access points and at least one of the wireless network nodes or (ii) between any two wireless network nodes based on the received scan data, a characteristic of at least one of the wireless access points, a characteristic of at least one of the wireless network nodes or combinations thereof(Fig.1-5, col.4, lines 45-55);

store the identified relationship, access point characteristic, node characteristic or combinations thereof in the SDS as topology data(Fig.1-5, col.4, lines 45-55, col.12, lines 53-58); wherein the wireless network comprises a wireless local area network(col.5, lines 55-56).

Sharma however does not explicitly (1)initiate at least one scan of one or more access points, one or more network nodes or combinations thereof, wherein the at least on scan is performed by a wireless sensor configured to monitor the wireless network and collect information from IEEE 802.11 management and control frames transmitted on the wireless network and (5)format topology data generated based upon a desired output format and (6) output the formatted topology data to a desired output device; wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless and a server; (c) a wireless receiver that monitors wireless transmissions, wherein the wireless receiver is in communication with the system processor and wherein the system process's programming or adaptation to initiate at least on scan includes at least programming or adaptation to initiate the scan using the wireless receiver and wherein it's programming or adaptation to receive scan data includes at least programming or adaptation to receive scan data from the wireless receiver or from an interface therewith; (d) an intrusion detection engine configured to detect a usage volume, anomaly, a connectivity pattern anomaly, a policy violation, a security violation or combinations thereof; wherein an iteration of steps (1) through (6) is initiated responsive to the intrusion detection engine detecting a violation.

Heitman teaches (1)initiate at least one scan of one or more access points, one or more network nodes or combinations thereof(Abstract); and (5)format topology data generated based upon a desired output format and (6) output the formatted topology data to a desired output device(Figs.28-34, col.3,lines 33-45).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma to (1)initiate at least one scan of one or more access points, one or more network nodes or combinations thereof; and (5)format topology data generated based upon a desired output format and (6) output the formatted topology data to a desired output device as taught by Heitman in order to resolve network topology(Heitman, col.2, lines 60-67).

One ordinary skill in the art at the time of the invention would have been motivated to combine the teachings of Sharma and Heitman in order to provide a system to manage policies for networks(Hietman, col.2, lines 3-30).

Sharma in view of Heitman does not explicitly teach, wherein the at least on scan is performed by a wireless sensor configured to monitor the wireless network and collect information from IEEE 802.11 management and control frames transmitted on the wireless network; wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless and a server; (c) a wireless receiver that monitors wireless transmissions, wherein the wireless receiver is in communication with the system processor and wherein the system process's

programming or adaptation to initiate at least on scan includes at least programming or adaptation to initiate the scan using the wireless receiver and wherein it's programming or adaptation to receive scan data includes at least programming or adaptation to receive scan data from the wireless receiver or from an interface therewith; (d) an intrusion detection engine configured to detect a usage volume, anomaly, a connectivity pattern anomaly, a policy violation, a security violation or combinations thereof; wherein an iteration of steps (1) through (6) is initiated responsive to the intrusion detection engine detecting a violation.

However, Sharma, col.25, lines 65-45, makes suggestions to different types of network and network technologies that can be used.

Cafarelli teaches wherein the at least on scan is performed by a wireless sensor configured to monitor the wireless network and collect information from IEEE 802.11 management and control frames transmitted on the wireless network(Fig.13, col.5, lines 41-50, 65-67); (c) a wireless receiver that monitors wireless transmissions, wherein the wireless receiver is in communication with the system processor and wherein the system process's programming or adaptation to initiate at least on scan includes at least programming or adaptation to initiate the scan using the wireless receiver and wherein it's programming or adaptation to receive scan data includes at least programming or adaptation to receive scan data from the wireless receiver or from an interface therewith(Fig.13, col.5, lines 41-50, 65-67); wherein the at least on scan is performed by a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network; wherein the relationship is identified

responsive to an analysis of the scan data and responsive to a relationship between the wireless and a server(Fig.13, col.5, lines 41-50, 65-67).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman to include wherein the at least on scan is performed by a wireless sensor configured to monitor the wireless network and collect information from frames transmitted on the wireless network; wherein the relationship is identified responsive to an analysis of the scan data and responsive to a relationship between the wireless and a server as taught by Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, and Cafarelli in order to efficiently monitor LAN(Cafarelli, col.3, lines 9-15).

Sharma in view of Heitman in further view of Cafarelli does not explicitly teach (d) an intrusion detection engine configured to detect a usage volume, anomaly, a connectivity pattern anomaly, a policy violation, a security violation or combinations thereof; wherein an iteration of steps (1) through (6) is initiated responsive to the intrusion detection engine detecting a violation.

Cooper teaches a network security policy monitoring system where traffic is monitored to see whether certain events are allowed by specified policies(Abstract, Figs.1-32,para.0045-0046).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in further view of

Cafarelli to include detecting whether there are potential security and policy violations as taught by Cooper in order to improve security of a network(Cooper, para.0003).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, and Cooper in order to improve security of a network(Cooper, para.0003).

Claims 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,766,165 issued to Sharma et al.(Sharma) in view of US Patent 6,920,494 issued to Heitman et al(Heitman) in further view of US Patent 6,693,888 issued to Cafarelli et al.(Cafarelli) in further view of US Publication 2003/0061506 issued to Cooper et al.(Cooper) in further view of US Patent 5,636,344 issued to Lewis in further view of US Patent 6,665,269 issued to Schmitz.

Sharma in view of Heitman in view of Cafarelli in view of Cooper in view of Lewis does not explicitly teach as per claim 39, the method of claim 1, further comprising determining, from the scan data, wireless local area network configured properties for the at least one of the wireless access points.

Schmitz teaches determining, from the scan data, wireless local area network configured properties for the at least one of the wireless access points(col.4, lines 4-8).

Therefore it would have been obvious to one ordinary skill in the art at the time of the invention to modify the teachings of Sharma in view of Heitman in view of Cafarelli in view of Cooper in view of Lewis to include determining, from the scan data, wireless local area network configured properties for the at least one of the wireless access

points as taught by Schmitz in order to troubleshoot network failures(Schmitz, col.1, line 28-30).

One ordinary skill in the art would have been motivated to combine the teachings of Sharma, Heitman, Cafarelli, Cooper, Lewis and Schmitz in order to troubleshoot network failures(Schmitz, col.1, line 28-30).

As per claim 40, the method of claim 39, wherein the wireless local area network configured properties comprise any of MAC address, access point name, Extended Service Set ID, supported wireless local area network rates, authentication modes, and wireless local area network encryption(Schmitz, col.4, lines 4-8). Motivation to combine set forth in claim 39.

As per claim 41 the method of claim 1, further comprising determining MAC addresses on all stations within the at least one of the wireless access points' Basic Service Set(Schmitz,Fig.5, col.7, lines 1-25). Motivation to combine set forth in claim 39.

***Response to Arguments***

Applicant's arguments with respect to claims 1-12, 15-36,38-41 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

**Examiner's Note**: Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the individual claim, other passages and figures

may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in its entirety as potentially teaching of all or part of the claimed invention.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BACKHEAN TIV whose telephone number is (571)272-5654. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571) 272-3964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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